

### **Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

### **Listing of Claims:**

1. (Currently amended) A method in a data processing system for dynamically selecting software buffers for aggregation in order to optimize system performance, said method comprising:

associating one of a plurality of different thresholds with each one of a plurality of different possible system configurations, wherein each one of said plurality of different possible system configurations includes one of a plurality of different I/O adapter speeds and one of a plurality of different data widths for a slot into which an I/O adapter is inserted;

receiving data to be transferred to a particular I/O adapter in said system ~~a device~~, said data being stored in a chain of software buffers;

determining a current configuration ~~current characteristics~~ of said system by determining a speed of said particular I/O adapter that is included in said system and determining a data width for a particular slot in said system into which said particular I/O adapter is inserted, wherein said current configuration is one of said plurality of different possible system configurations;

identifying one of said plurality of different thresholds that is associated with said current configuration;

~~dynamically selecting ones of said software buffers to combine that will maximize performance of said system while said data is being transferred;~~

~~determining a threshold that has been assigned to an I/O adapter that is to be used to receive said data;~~

evaluating a first buffer in said chain;

determining whether said first buffer is larger than said identified one of said plurality of different thresholds ~~threshold~~;

in response to a determination that said first buffer is larger than said identified one of said plurality of different thresholds ~~threshold~~, leaving said first buffer unchanged and creating a new chain of buffers that includes said unchanged first buffer; and

in response to a determination that said first buffer is not larger than said identified one of said plurality of different thresholds ~~threshold~~, ~~aggregating~~ ~~combining~~ said first buffer with a second buffer in said chain to create a new buffer that is an aggregation ~~a combination~~ of said first buffer and said second buffer, and creating a new chain of buffers that includes said new buffer instead of either said first or said second buffer.

2. (Currently amended) The method according to claim 1, wherein each one of said plurality of different possible system configurations includes one of a plurality of different numbers of CPUs and one of a plurality of different CPU speeds.

~~further comprising the steps of:~~

~~determining current characteristics of said system includes determining direct memory access (DMA) capabilities and processor capacity of said system, wherein said DMA capabilities and processor capacity are said current characteristics.~~

3-6. (Canceled)

7. (Previously presented) The method according to claim 1, further comprising the step of: transmitting said data using said new chain instead of said chain.

8-20. (Canceled)

21. (Currently amended) A method in a data processing system for dynamically selecting software buffers for aggregation in order to optimize system performance, said method comprising:

associating one of a plurality of different thresholds with each one of a plurality of different possible system configurations, wherein each one of said plurality of different possible system configurations includes one of a plurality of different I/O adapter speeds and one of a plurality of different data widths for a slot into which an I/O adapter is inserted;

receiving data to be transferred to a particular I/O adapter in said system device, said data being stored in a chain of software buffers;

determining a current configuration ~~current characteristics~~ of said system by determining a speed of said particular I/O adapter that is included in said system and determining a data width for a particular slot in said system into which said particular I/O adapter is inserted, wherein said current configuration is one of said plurality of different possible system configurations;

identifying one of said plurality of different thresholds that is associated with said current configuration;

~~dynamically selecting ones of said software buffers to combine that will maximize performance of said system while said data is being transferred;~~

~~determining a threshold that has been assigned to an I/O adapter that is to be used to receive said data;~~

evaluating a first buffer in said chain;

determining whether said first buffer is larger than said identified one of said plurality of different thresholds ~~threshold~~;

in response to a determination that said first buffer is larger than said identified one of said plurality of different thresholds ~~threshold~~, leaving said first buffer unchanged; and

in response to a determination that said first buffer is not larger than said identified one of said plurality of different thresholds ~~threshold~~, replacing said first buffer and a [[said]] second buffer ~~buffers~~ in said chain with an aggregated buffer which is an aggregation ~~a combination~~ of said first and said second buffers.

22. (New) The method according to claim 2, wherein the step of determining a current configuration of said system further includes determining a particular number of CPUs that are included in said system and a particular speed of each CPU that is included in said system, wherein said particular speed is one of said plurality of different CPU speeds.

23. (New) The method according to claim 1, wherein each one of said plurality of different possible system configurations includes one of a plurality of different numbers of CPUs and one of a plurality of different access latencies of a memory system, wherein said memory system includes a memory controller and a cache.

24. (New) The method according to claim 23, wherein the step of determining a current configuration of said system further includes determining a particular access latency of a particular memory system that is included in said system, wherein said particular access latency is one of said plurality of different access latencies.